

THE SHRIMP *TRACHYPENEUS SIMILIS* IN TAMPA BAY

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DURING a faunal sampling project in Florida estuarine waters, several species of shrimp were captured along with other crustaceans and fishes. Shrimp were particularly numerous at two sampling stations during the period August 1961 through December 1963. Both stations were in the Tampa Bay system: one in Old Tampa Bay and the other at Egmont Key located at the mouth of the Bay. Each of these two stations was occupied for 24-hour periods alternately in consecutive months from August 1962 through December 1963. Forty-nine other stations in Tampa Bay and one station offshore were sampled from August 1961 through December 1963 during daylight hours only. Types of gear used in the daylight studies were trawls, beach seines, and push nets. Trawls were the only gear used during the 24-hour studies.

Numerous specimens of penaeid shrimp were caught during the 24-hour biological studies conducted on the east side of Egmont Key at the mouth of Tampa Bay. The dominant penaeid shrimp present was *Panaeus duorarum* (Burkenroad), along with some *Trachypeneus constrictus* (Stimpson) and *Sicyonia typica* (Boeck). Also present were 97 specimens of *Trachypeneus similis* (Smith). These are the first specimens reported from Tampa Bay and the west coast of Florida between Apalachicola Bay and the Tortugas grounds. All 97 specimens were caught during darkness with either a 10- or 16-foot shrimp try-net. No *T. similis* were caught in our regular daylight sampling of Tampa Bay or in 24-hour sampling in Old Tampa Bay. Data recorded relative to the occurrence of *T. similis* were size, sex, temperature, and salinity (table 1).

The station at Egmont Key is characterized by a sandy shell bottom, a depth of approximately two fathoms of water, and an abundant growth of *Thalassia testudinum* (Konig) and *Syringodium filiforme* (Kutz).

DISCUSSION

The month of December was the period of maximum abundance of *T. similis* at the Egmont Key station with 95 of 97 total specimens being caught during that time. Eldred (1959a) found that

the period of maximum abundance of *T. similis* on the Tortugas grounds was from January through March 1959 and stated that *T. similis* is next in abundance to *P. duorarum* on the Tortugas grounds, where both species are harvested in the commercial fishery. Similarly, Eldred (1959b) and Ingle, Eldred, Jones, and Hutton (1959) found that the major abundance of *T. similis* occurred on the Tortugas grounds from January through April 1958.

TABLE 1

Data for *Trachypeneus similis* from Egmont Key, Florida

Date	Time of Capture	Number and Sex	Carapace Length mm.	Bottom Temperature °C	Bottom Salinity o/oo
8-31-62	0300	1 ♀	8.7	30.30	32.97
10-30-62	0300	1 ♀	9.4	21.32	31.58
12-20-62	2100	2 ♂	9.3 (8.9-9.6)	14.40	32.99
12-12-63	2000	5 ♂	7.2 (6.4-7.5)	16.12	33.71
		10 ♀	9.7 (6.6-12.2)		
12-12-63	2300	13 ♂	8.6 (7.5-9.6)	16.14	33.80
		32 ♀	10.2 (7.5-12.4)		
12-13-63	0200	4 ♂	8.0 (6.0-9.3)	16.37	33.75
		17 ♀	9.8 (6.3-12.2)		
12-13-63	0500	6 ♂	8.3 (7.3-8.9)	16.21	33.44
		6 ♀	8.8 (7.2-10.3)		
Total		30 ♂	8.26 (6.0-9.6)		
		67 ♀	9.85 (6.3-12.4)		

Females averaged larger than males in each of our collections containing both sexes. Ingle, Eldred, Jones, and Hutton (1959) also found that the females were larger than the males in all the monthly summaries of their catch records on the Tortugas grounds.

All specimens from Egmont Key were found in salinities exceeding 31 parts per thousand.

Burkenroad (1934) reported the distribution of *T. similis* from the Gulf of Mexico, northern Antilles, Venezuela, Louisiana, and the western coast of Florida. He stated, however, that *T. constrictus* inhabits areas north and east of that of *T. similis*. He also stated that the latter replaces *T. constrictus* on the western and southern shores of the Gulf of Mexico and the Caribbean.

The occurrence of *T. similis* throughout the Gulf of Mexico is mentioned by various authors. Eldred (1959a, 1959b) and Ingle, Eldred, Jones, and Hutton (1959) cited the occurrence of *T. similis* on the Tortugas grounds. Perez-Farfante (1953) mentioned that it occurred in the Bahía de Cienfuegos of Cuba. Hildebrand (1954) in his study of the fauna of the brown shrimp (*Penaeus aztecus* Ives) grounds in the western Gulf of Mexico found that it was second to *P. aztecus* in abundance. He also noted that *T. similis* was uncommon in depths of less than 12 fathoms and appeared to prefer a mud bottom. Guest (1956) mentioned that *T. similis* occurs in bays and the Gulf of Mexico along the Texas coast. Renfro and Brusher (1963) in their work on shrimp populations between Galveston, Texas, and Cameron, Louisiana, found the majority of *T. similis* occurring in 7½ and 15 fathoms, but some in depths as great as 45 fathoms. Burkenroad (1939) listed the species as occurring in Pensacola Bay, Florida, and stated that it is a frequently encountered species west of 88° 10' in the Gulf of Mexico. He also found that *T. similis* appeared to prefer a muddy bottom. Wass (1955) did not mention its occurrence in his samples from Alligator Harbor and adjacent inshore areas of northwestern Florida but stated that it is known to occur off the coast of northwestern Florida within the 30-fathom line.

The omission of this species from several papers on the fauna of the Gulf waters of Florida is notable. In a bait shrimp survey of the west coast of Florida Woodburn, Eldred, Clark, Hutton, and Ingle (1957) did not mention the occurrence of *T. similis*. When reporting on the pink shrimp, *Penaeus duorarum*, in Florida waters, Eldred, Ingle, Woodburn, Hutton, and Jones (1961) did not list this species. *T. similis* was also absent from the lists of Hutton, Eldred, Woodburn, and Ingle (1956), reporting on a study of the ecology of Boca Ceiga Bay, Florida. Eldred (personal communication) found this species only on the Tortugas grounds and in Pensacola and Apalachicola Bays on the west coast of Florida. Published research results by Tabb and Manning (1961) from northern Florida Bay and by Tabb, Dubrow, and Jones (1962) from Everglades National Park, Florida, did not mention the occurrence of *T. similis*. Nevertheless, the record of *T. similis* from Tampa Bay now shows that its distribution probably extends throughout the entire periphery of the Gulf of Mexico.

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